Justification for other than Full and Open Competition

EMCBC Office of Contracting
Provide an Integrated Risk-Based Decision Simulation Tool

1. **Agency and Contracting Activity**: The United States Department of Energy (DOE), Office of Environmental Management (DOE-EM), Consolidated Business Center (CBC), Office of Contracting (OOC), intends to contract through other than full and open competition. This document provides the justification and approval for the use of non-competitive procedures pursuant to 41 U.S.C. 253(c)(1) and in accordance with Federal Acquisition Regulation (FAR) 6.302-1.

2. **Nature and/or Description of the Action Being Approved**: The action being approved is the negotiation of a non-competitive (sole source) contract to Predicus LLC, 300 NE Gilman Blvd, Suite 100, Issaquah, Washington 98027. This contract is for specialized technical services necessary for further development of an existing DOE, GoldSim Demonstration Model which will be used in DOE's Prioritization Risk Integration Simulation Model (PRISM). PRISM is being developed by DOE to manage approximately 80 projects for environmental restoration. DOE intends to award a firm fixed price contract with an anticipated performance period of date of award through 20 months. The anticipated value of the contract will be $2.5 million.

3. **Description of Services Required to Meet Agency's Needs**:

   A. Background:

   (1).DOE-EM has approximately 80 projects for environmental restoration and currently an annual budget of approximately $6 billion. Some of these projects will extend for over 40 years before they are complete. Most DOE sites where operations have taken place, including those managed by DOE-EM, are subject to some combination of Federal Facilities Agreements (FFAs), Consent Orders, Consent Decrees, Settlement Agreements, and/or Administrative Agreements, all of which may set forth enforceable milestones. Failure to meet enforceable milestones can lead to enforcement actions, protracted milestone renegotiations, negative publicity, and additional regulatory constraints. Reasons for missing milestones are generally attributable to execution challenges that were not anticipated during upfront project planning. These may include inadequate risk management/mitigation measures, unforeseen changes in internal (DOE) or external (State/EPA) regulatory requirements, unanticipated escalation in labor and commodity costs, inadequate project management, and/or funding shortfalls.

(2). DOE-EM must demonstrate fiduciary responsibility with taxpayers' money. Effective project risk management planning and execution is essential given the broad portfolio of sites, commitments, and issues DOE-EM faces every day. DOE-EM's funding priorities are subject to challenge by the Office of Management and Budget, Congressional committees, State representatives, vendors seeking earmarks, and other affected stakeholders. There is competition for funding within and among DOE-EM site offices and contractors, each seeking sufficient funding to meet baseline and regulatory commitments. When funding is inadequate to meet those commitments or when unforeseen issues require more time and money than previously anticipated, baselines cannot be met and enforceable milestones are in jeopardy. Despite the additional rigor that DOE Order 413.3 has brought to DOE-EM project planning, a more exact and insightful understanding of the hard and soft risks can reduce surprises. A hard risk is a risk that is technical in nature while a soft risk refers to project risks that are not technical in nature such as political, public or legal rejection of a proposed project or project component, risks of rejection by regulatory agencies, commodity escalation, human capital availability, funding risks and other risks that can be difficult to quantify or otherwise account for using most planning and analysis techniques.

(3). Some of the larger DOE-EM restoration projects, such as those being conducted in Richland, Washington (Hanford Site) for the remediation of the tank farms and cleanup of the overall site, have put considerable effort into understanding and modeling project risks. But even with those large, long-term projects, "soft risks" and inter-project cascading risks may not have been adequately recognized during the baseline planning. In addition, the methods of establishing uncertainty estimates have not used uniformly rigorous probability encoding or similar techniques to remove bias and overly optimistic assumptions.

(4). DOE-EM has recently been criticized for the lack of a formal risk-based decision tool to properly prioritize projects and funding throughout the DOE-EM complex. DOE-EM is seeking a more rigorous and uniformly applied risk management approach to underpin it's privatization and defense of annual funds. The approach used must be transparent, objective, and of value in DOE-EM interactions with OMB, Congress, State and Federal regulators, and Tribal Nations. The approach must also provide tools that will assist DOE-EM and Site Managers in the renegotiation or establishment of new milestones within agreements, consent orders, and/or consent decrees. This revised approach must be capable of accommodating a range of consistent risk metrics that are important to DOE, its regulators and stakeholders, OMB, and Congress and that can be expressed in quantifiable terms such as project cost/schedule risks, and health/environmental risks. The approach must allow project performance needs to be predicted and measured within uncertain frameworks. Complex-wide integration needs to be structured to use or build up existing project risk assessments to the extent possible. The integration process must allow for periodic updating and evaluation

of the probability of success for each project. The techniques used and outcomes predicted must be understandable, defensible, and credible across the broad spectrum of entities DOE-EM regularly engages with. Finally, the techniques used must be suitable for ongoing implementation by DOE-EM and the people who manage and execute its projects once the system is set up and people are trained in its use.

B. Required Services:

(1). DOE-EM requires an integrated risk-based model that will encompass all DOE-EM projects. This model will be called the Prioritization Risk Integration Simulation Model (PRISM). PRISM will integrate a variety of models, currently used at various DOE-EM sites, such as Prima Vera, Pert, Excel and other models into a GoldSim model. A GoldSim model is a proprietary, commercial, software-based decision making model that is sold off the shelf or is customized at the request of a business or government entity. The model allows visualization and simulation of any kind of physical, financial or organizational system. The GoldSim Technology Group LLC (GTG) is the owner of this model. A customized Goldsim model is currently being used by DOE. DOE-EM wants to apply and further develop this model for use in the PRISM project.

(2). Predicus will collect detailed risk data across the Hanford site and populate the enhanced GoldSim simulation software that will result in a fully integrated Hanford risk simulation model. During this implementation, an assessment of existing risk management activities will be conducted in order to avoid duplication of previous or ongoing activities in the identification and mitigation of risk across the DOE Hanford site. Once this limited model has been determined to be a success, application of the PRISM model across all of the DOE-EM projects throughout the United States will be undertaken.

(3). Restriction to the use of this model is necessary as this software simulation model is a logical and effective evolution of the GoldSim simulation software currently in use by the DOE Office of Civilian Radioactive Waste Management (OCRWM) to assess the risk for the Yucca Mountain Project. The GoldSim software is derived from a previous version called Strategy Integration Program (STRIP) in which DOE-EM invested significant funds to assist in the evaluation of alternatives for the Waste Isolation Pilot Plant (WIPP). The PRISM model shall provide the following benefits/results to DOE-EM:

- Promote understanding of project risks.
- Comprehensive risk evaluation over entire life cycle of major projects.
- Flexible evaluation of changes in funding profiles (short and long term) on portfolio of projects.

- Effective visual communication and rapid adaptation during interactions with stakeholders (Administration, Congress, State, Local, NGO).
- Efficient sorting of options and priorities thus allowing decision makers the ability to select the proper course of action.

4. Identification of the Statutory Authority Permitting Other Than Full and Open Competition:

The Competition in Contracting Act (41 U.S.C. 253(c)(1)), implemented under FAR 6.302-1, authorizes other than full and open competition when the supplies or services required by the agency are available from only one responsible source, and no other type of supplies or services will satisfy agency requirements.

5. Unique Contractor Qualifications:

A. DOE-EM has invested significant resources for the development of the Strategy Integration Program (STRIP) database in order to evaluate a separate DOE program called the Waste Isolation Pilot Plant (WIPP). STRIP was the predecessor to the GoldSim model. PRISM represents the next evolution of the risk based decision tool and capitalizes on DOE's previous investments in STRIP and GoldSim.

B. Goldsim was developed from 1999 – 2001 by Golder Associates Inc. The development of the software was jointly supported by DOE-OCRWM, Enresa (Spain), PNC (Japan), and Golder. DOE's share was about 20% of the total development costs. Subsequently, DOE funded specific enhancements to GoldSim, specifically for the Yucca Mountain Project (YMP), initially via the YMP Management and Operating Contract and then through DOE's Sandia National Laboratory. DOE-OCRWM has an existing license agreement under contract DE-AF28-06RW12390 that allows for the use of the software specifically for the YMP's safety assessments.

C. The GoldSim software is now widely used exclusively for radioactive waste disposal and environmental remediation projects worldwide.

D. The Goldsim Technology Group LLC (GTG) has substantially expanded the GoldSim software's capabilities, and in particular has adapted it for application to project risk management. This spin-off of a technology whose development was originally supported by the YMP is being applied to major project decisions in a number of arenas: these include nuclear power generation projects, civil infrastructure developments, and hydropower developments. GTG has partnered with others to create a specialized consulting company, Predicus LLC, specifically to provide expertise in this field.

E. Since DOE has invested significant resources in this specific technology and software, and Predicus has an exclusive license to further develop GoldSim, it is advantageous

for DOE's to continue its use of this model. To use any other model would entail re-incurring these developmental costs, the magnitude of which makes it very unlikely those costs could be recouped from the possible savings realized through a competitive acquisition. GTG is an owner of Predicus LLC and has granted them exclusive use of the GoldSim simulation software. Also, as stated earlier, the Goldsim model will be further developed for this PRISM project. This model will have a broad range of unparalleled capabilities. Accordingly, it is in the best interest of DOE to negotiate a non-competitive (sole source) contract with Predicus, LLC.

6. Efforts to Solicit Offers from as many Potential Sources as Practicable:

Other risk identification tools exist in the marketplace. Some of these tools are "Spreadsheets," "Crystal Ball," "Primavera/Pertmaster as well as others. However, these tools do not possess the capabilities to consider various factors, simultaneously, into the risk model which DOE-EM requires. These tools tend to target traditional areas of project management such as scheduling and costs. The Goldsim model that Predicus will further develop will offer the following capabilities:

A. Serve to integrate the results of individual project/contract-based, site specific DOE-EM project risk analyses, and shall address interactions and dependencies between individual projects.

B. Provide decision-analysis facilities for evaluating and comparing alternative plans of activities.

C. Provides facilities for rapidly assessing the impacts of alternative budget/funding scenarios.

D. Simulate the occurrences and consequences of all identified significant risks that might affect the projects, including technical and non-technical risk factors.

E. Estimate the overall impacts associated with the wastes and the activities involving them. Impacts shall include, at a minimum, costs, schedules, worker health and safety, public health and safety, environmental risk, regulatory compliance, and public acceptability.

F. Simulate the status of multiple waste systems and multiple DOE-radionuclide inventory, processing or characterizing or packaging activities, and transport activities. Each stream shall be followed from its initial state through to its final stabilized or disposed rate.

7. Determination of Fair and Reasonable Anticipated Cost:

DOE intends to negotiate a fair and reasonable price with Predicus. The solicitation issued to Predicus will employ commercial buying procedures as specified in FAR Part 12. An independent government cost estimate will also be generated and used as a guide in determining price reasonableness.

8. Description of Market Research Conducted:

The program office conducted market research and the results of the research ascertained that only Predicus was the only responsible source that could provide these services. Also, on December 8, 2008, a synopsis was issued in the Federal Business Opportunities website. The synopsis communicated DOE's intent to award a contract to Predicus on a sole source basis. This synopsis also provided interested parties the opportunity to either challenge DOE's sole source decision or offer a superior solution. Interested parties were given until January 9, 2009 to comment. In response to this synopsis, no contractor comments were received.

9. Other Facts Supporting the Use of Other than Full and Open Competition:

This Goldsim model is unique, as it has a broad range of capabilities not found in any other software models. This broad range capability feature is crucial in order to effectively carry out the PRISM project. Please see Section 4 of this justification for a list of those capabilities.

10. Listing of Interested Sources:

There are no interested sources. See Section 6 of this justification for further details.

11. Actions to Remove or Overcome any Barriers to Competition Before any Subsequent Acquisition for the Services Required:

This is a one time project therefore there will be no subsequent acquisition for these services.

12. Certification:

B. By the Contracting Officer's signature below, the Contracting Officer certifies that this JOFOC is accurate and complete the best of the Contracting Officer's knowledge.

C. By the Acquisition Initiator's signature below, the supporting data that is the responsibility of technical and requirements personnel which was used to form a basis for the JOFOC is certified as complete and accurate.

Acquisition Initiator:

1/21/09
Jay Rhoderick — Date
Director for Office of Strategic
Planning and Analysis
Office of Environmental Management

Contracting Officer:

1-22-09
F. Robert Ribail — Date
Contracting Officer
Environmental Management Consolidated
Business Center

Reviews and Approvals:

Legal Counsel:

1-22-09
Paul L. Whalen — Date
Attorney (Contracts)
Environmental Management Consolidated
Business Center

Competition Advocate:

2/24/09
Michael F. Howard — Date
~~Director~~ Competition Advocate
Office of Procurement Planning
Office of Environmental Management